

MARTINSDALE DAM

Fact Sheet

PROJECT DESCRIPTION

- Off stream storage project, in Wheatland and Meagher Counties
- 2.5 miles southeast of Martinsdale
- Owned by DNRC & managed by SWPB
- Operated by Upper Musselshell Water Users Association since 1939
- Project consists of two, Zoned Earthfill Dams:

<u>North Dam</u>	<u>East Dam</u>
91 feet high	49 feet high
1,000 feet long	1,550 feet long
Gated, reinforced concrete 60" outlet conduit, 120 feet-long, 54-inch emergency slide gate and 54-inch operating butterfly valve with controls at the top of the tower.	Concrete chute spillway Earth-rock lined emergency spillway
- Constructed in 1939
- Storage at full pool is 23,348 acre-feet covering 985 surface acres.
- 86 water users have 101 contracts for 21,718 acre/feet of water
- The delivery of irrigation water is vitally important to the water user farm/ranch operations.
- Popular recreation site, primarily for fishing. A DFWP Fishing Access Site is located on the reservoir's north shore.

PROJECT DEFICIENCIES

- Large amounts of seepage occurs in the north dam. Grouting for seepage control had limited success. Additional drains were installed in 1985 to collect seepage and improve embankment stability. The configuration of the existing drains makes it unsafe and difficult to monitor flows. In addition, sedimentation is occurring in the toe drain and cannot be accurately measured. Excessive seepage and sedimentation may indicate a potential problem within the dam, but this cannot be determined with the existing drain configuration. In order to improve seepage collection and make accurate measurements of flows and sedimentation, modification of the drains is necessary.

PROPOSED ACTIONS TO ADDRESS DEFICIENCIES

Modification of the drain system to allow accurate and safe measurements of flows and sedimentation, including the following:

- Add manholes to the toe drain system for flow measurements and trapping sediment.
- Redirect the outfall of the right abutment horizontal drain system further downstream to allow for safe and accurate flow measurements.
- Install a right groin drainage system to address the remaining seepage.
- Install automated instrumentation to allow for continual monitoring. The improved monitoring capabilities are required for compliance with the current operating permit.

Estimated Cost \$129,525.

- The Department is requesting a \$100,000 Renewable Resource Grant from the 2009 Legislature for partial project payment. The DNRC will pay for remaining cost.



North Dam,



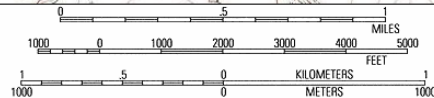
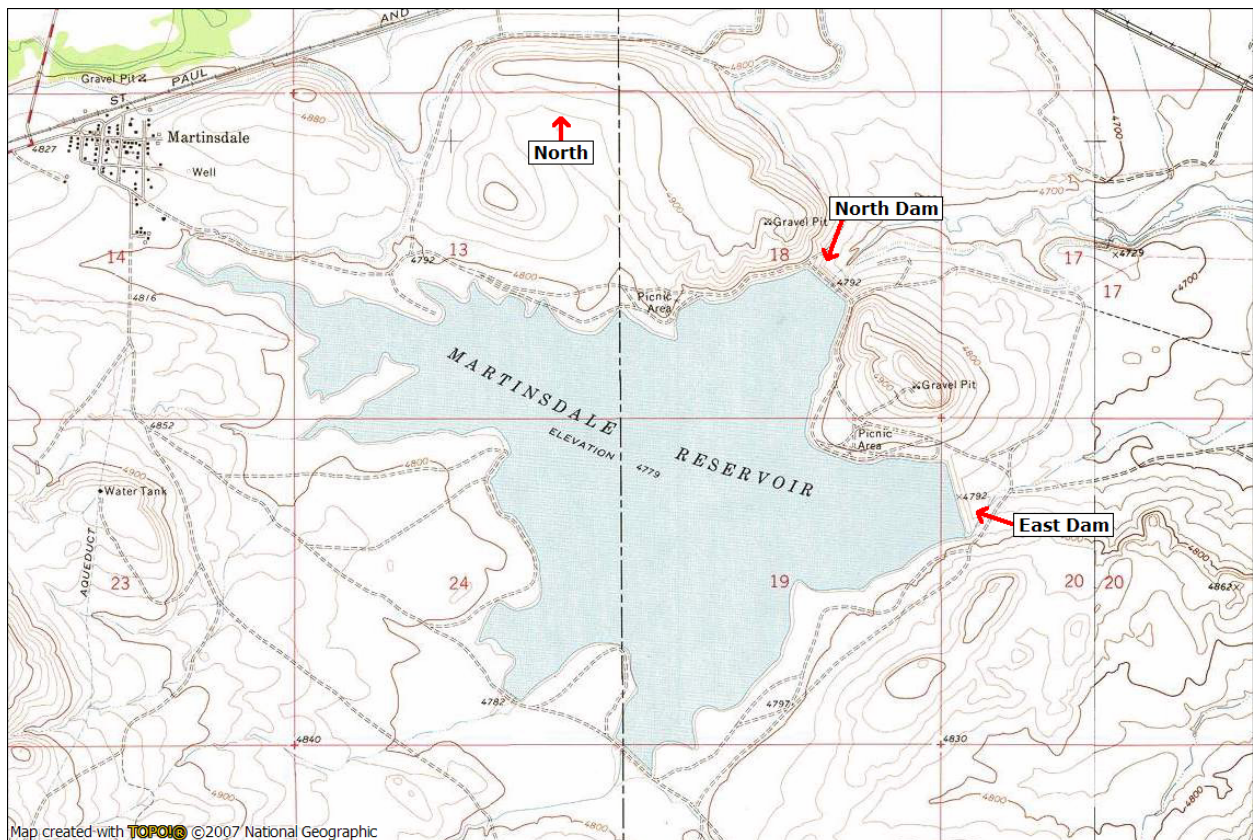
Outlet on North Dam Downstream Face



East Dam



East Dam Spillway



TN ↑ MN
13°
08/15/08